

Application No.: 09/632,530
Filed: August 4, 2000

REMARKS

Claims 1-75 were pending in the application. Minor changes are made to the specification. Claims 1, 41, and 63 are amended. New claims 76-78 are added. Support for claims 76 and 77 can be found on page 28, lines 19-22 of the specification. New claim 78 combines the limitations of the original claims 1, 38, 40, and 41. No new matter is introduced. Claims 49-62 were previously withdrawn as being directed to a non-elected invention and have been canceled without prejudice to filing a divisional application therefor. Claims 1-48 and 63-78 are presented for further examination. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Objection to the Specification Under 35 U.S.C. §112 (1st paragraph)

The Examiner objected to the specification under 35 USC §112, first paragraph, "for failure to provide a 'clear' written description of the invention." The Examiner alleges that "[t]he specification is unclear, as required by §112 (1st paragraph), in failing to clearly distinguish the claimed invention from that which applicants regard as the 'prior art.' Specifically, the background section of the application concludes with a most perplexing remark: '[I]t should be understood that these [background section] statements are to be read in this light, and not as admissions of prior art' ...Applicants simply don't want to admit that it is." This objection is respectfully traversed.

A. The Examiner did not Provide a Proper Basis for the Objection.

Applicants respectfully submit that the objection to the specification under 35 U.S.C. §112, first paragraph, is not valid. The first paragraph of 35 U.S.C. §112 requires the "specification [to] contain a written description of the invention ... in clear ...terms." Thus, the plain meaning of the statute requires a clear description of the invention, as claimed, not of the relevant prior art.

Consistent with this plain meaning interpretation of the statute, the case law provides an objective standard for determining an applicant's compliance with the written description requirement as that "the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10USPQ2d 1614, 1618 (Fed. Cir. 1989) (emphasis added). "An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words,

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structures, figures, diagrams, and formulas that fully set forth the claimed invention." *MPEP* §2163.02.

Therefore, nothing in the language of the statute, its interpretation by the case law, nor the *MPEP*, indicates the relevance of 35 U.S.C. §112, first paragraph, to a description of the state of the art in the Background section of a patent application. All that 35 U.S.C. §112, first paragraph, requires is a sufficient written description of the invention as claimed. Since the Examiner did not allege insufficiency of the description provided by the instant specification with respect to the pending claims, the specification of the present invention fully satisfies the requirements of 35 U.S.C. §112, first paragraph.

B. There is no Statutory Basis for Requiring Applicants to Distinguish the Claimed Invention from that which Applicants Regard as the Prior Art.

As discussed above, the first paragraph of 35 U.S.C. §112 does not place any restrictions on the content of the Background of the Invention section of a patent application. According to the *MPEP* §608.01(c), the Background of the Invention section should include "[a] paragraph(s) describing to the extent practical the state of the prior art or other information disclosed known to the applicant, including references to specific prior art or other information where appropriate. Where applicable, the problems involved in the prior art or other information disclosed which are solved by the applicant's invention should be indicated." Furthermore, the *MPEP* §608.01(p) states that "the prior art setting may be mentioned in general terms." Applicants believe that the Background of the Invention section of the present invention fully satisfies these requirements by providing a general discussion of water contamination problems and water treatment options.

C. §1.105 of 37 C.F.R Does Not Require Applicants to Admit or Deny any Statements Made in the Background Section of the Specification.

The Examiner requested, "[f]or the purpose of clarifying the record," under 37 C.F.R. §1.105, applicant to deny or admit the truthfulness of 71 statements listed by the Examiner with respect to what was known in the art prior to the present invention. Applicants object to this request as being improper.

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37 C.F.R. §1.105 allows the Examiner to require the submission of such information as may be reasonably necessary to properly examine or treat the matter. 37 C.F.R. §1.105(a)(1)(i)-(vii) lists specific examples of information that may be reasonably required, including the existence of any particularly relevant commercial database, the scope of a prior art search, copies of publications by the inventors related to the claimed invention, information used to draft the application or used in the invention process, identification of claimed improvements, and the identification of any use of the claimed invention known to the inventors.

Additionally, *MPEP* §704.11 provides other examples of information that may be reasonably required, including the citation of any particularly relevant indexed journal, the trade name of any goods or services and copies of any advertising and promotional literature prepared for any goods or services which are embodiments of the invention or competing with the invention, written descriptions or analyses prepared by the inventors, the identification of pending or abandoned applications filed by the inventors, an explanation of technical material in a publication, a mark-up for a continuation-in-part application showing the subject matter added, comments on a new decision by the Federal Circuit that appears on point, the publication date of an undated document mentioned by applicant that may qualify as printed publication prior art and comments on information of record which raises a question of whether the applicant derived the invention from another.

These examples in 37 C.F.R. §1.105 and *MPEP* §704.11(a) indicate that reasonably required information should be necessary for finding the prior art, and not for interpreting its scope. In fact, *MPEP* §704.11 states, "The criteria of reasonable necessity is generally met, e.g., where: (A) the examiner's search and preliminary analysis demonstrates that the claimed subject matter cannot be adequately searched by class or keyword among patents and typical sources of non-patent literature, or (B) either the application file or the lack of relevant prior art found in the examiner's search justifies asking the applicant if he or she has information that would be relevant to the patentability determination."

Furthermore, *MPEP* §704.11 recognizes that a requirement for information under 37 CFR §1.105 "places a substantial burden on the applicant that is to be minimized by clearly focusing the reason for the requirement and the scope of the expected response. Thus, the scope of the

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requirement should be narrowly defined, and a requirement under 37 CFR §1.105 may only be made when the examiner has a reasonable basis for requiring information.” Applicants believe that the request by the Examiner for the Applicants to deny or admit the truthfulness of the 71 statements is not narrowly defined as required by *MPEP* §704.11 and places a substantial burden on the Applicants. Additionally, Applicants believe that the information requested by the Examiner is not “reasonably required” to examine the instant patent application on the merits. In view of the foregoing, Applicants believe that the Examiner has not identified a proper statutory requirement on which the objection to the specification is based. Thus, the objection is improper and should be withdrawn.

Rejection Under 35 U.S.C. §102

Claims 1, 30, and 63 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Pat. No. 5,167,935 (the ‘935 parent) to Lerner. This rejection is respectfully traversed.

The present invention is directed to a system and method for gas-enriching wastewater by delivering a gas-enriched fluid through a delivery assembly into wastewater (page 12, lines 6-12; page 27, line 21 – page 28, line 12). As pointed out in the specification, unlike conventional aeration techniques, which use diffusion between the liquid/gas interface, the present invention relies on liquid-to-liquid gas transfer, which provides a more efficient and rapid gas transfer to the wastewater (page 12, lines 6-12; page 28, lines 19-22; and page 30, lines 12-22). Furthermore, unlike conventional techniques that involve bubbling a gas through a liquid, which results in considerable gas loss as gas bubbles exit the liquid, in the present invention a gas-enriched fluid is delivered to wastewater substantially bubble-free (page 30, lines 12-22).

Accordingly, independent claim 1 has been amended to clarify that in the apparatus of the present invention, the delivery assembly is in a fluid communication with wastewater and expels the gas-enriched fluid into the wastewater in a substantially bubble-free manner. Similarly, independent claim 63 has been amended to clarify that in the wastewater treatment facility of the present invention, the delivery assembly is in a fluid communication with the untreated wastewater and expels the gas-enriched wastewater into untreated wastewater in a substantially bubble-free manner. Thus, both amended independent claims 1 and 63 require a fluid communication between the

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delivery assembly and untreated wastewater, which allows the mixing of a gas-enriched fluid with wastewater in a bubble-free manner.

The '935 patent does not anticipate the present claims 1 and 63 as it does not teach a fluid communication between a delivery assembly and a wastewater, which allows a delivery of a gas-enriched fluid into wastewater. Instead, the '935 patent teaches an absorber delivering liquid containing an ambient concentration of oxygen of up to 21% (column 6, lines 3-7) to the packing countercurrent to the flow of gas, such as NO_x and air (column 7, lines 29-39).

Nor does the '935 patent suggest claims 1 and 63. The '935 patent does not teach a liquid-to-liquid gas transfer and its advantages over a gas-liquid transfer. Instead, the '935 patent utilizes a conventional gas-liquid transfer to absorb NO_x in the liquid (column 7, lines 29-39). Therefore, based on the teachings of the '935 patent, one of ordinary skill in the art would not be motivated to change the device of the '935 patent from a gas-liquid transfer device to a liquid-to-liquid transfer device and arrive at the present claims 1 and 63. Thus, claims 1 and 63 are patentable over the '935 reference. Claim 30 depends from claim 1 and, thus, it is patentable over the '935 patent for at least the same reasons as claim 1.

Rejections Under 35 U.S.C. §103(a)

Claims 38 and 39 stand rejected under 35 U.S.C. §103(a) as obvious over the '935 patent in view of U.S. Pat. No. 3,885,918 to Isahaya (the '918 patent). This rejection is respectfully traversed.

Claims 38 and 39 depend from claim 1 and, thus, they are patentable over the '935 patent for at least the same reasons as claim 1. The '918 patent cannot remedy the defect of the '935 patent and is not relied on by the Examiner for such. The Examiner relies on the '918 patent for teaching a spray nozzle with a plurality of capillaries.

Nothing in the '918 patent teaches or suggests a liquid-to-liquid gas transfer in general, much less a fluid communication between a delivery assembly and a wastewater, which allows a delivery of a gas-enriched fluid into wastewater. Instead, the '918 patent teaches a spray nozzle for introducing an alkali-containing liquid into a gas flow (column 2, lines 30-38). Thus, claim 1 and its dependent claims 38 and 39 are patentable over the '935 patent in view of the '918 patent.

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Claims 64-69 are rejected under 35 U.S.C. §103(a) as obvious over the '935 patent in view of U.S. Pat. No. 5,529,612 (the '612 patent) to Troost. This rejection is respectfully traversed.

Claims 64-69 depend, directly or indirectly, from claim 63 and, thus, they are patentable over the '935 patent for at least the same reasons as claim 63. The '612 patent cannot remedy the defect of the '935 patent and is not relied on by the Examiner for such. The Examiner relies on the '612 patent for teaching "a cart ... to produce a portable gas purification system."

Nothing in the '612 patent teaches or suggests a liquid-to-liquid gas transfer in general, much less a fluid communication between a delivery assembly and a wastewater, which allows a delivery of a gas-enriched fluid into wastewater. Instead, the '612 patent teaches a method of removing volatile organic compounds from gas by percolating the gas through tetraglyme to adsorb the volatile organic compounds in the tetraglyme (column 1, lines 56-62). Thus, claim 63 and its dependent claims 64-69 are patentable over the '935 patent in view of the '612 patent.

Rejection Under 35 U.S.C. §102(b)

Claim 40 is rejected under 35 U.S.C. §102(b) as anticipated by GB 2086247 (the '247 patent). This rejection is respectfully traversed.

The '247 patent does not anticipate claim 40. Claim 40 depends from claim 1, which requires a fluid communication between a delivery assembly and a wastewater, which allows a delivery of a gas-enriched fluid into wastewater. Thus, the '247 patent does not anticipate claim 40 because it doesn't teach a fluid communication between a delivery assembly and a wastewater, which allows a delivery of a gas-enriched fluid into wastewater. Instead, the '247 patent teaches an aeration process consisting of introducing liquid under pressure into a space containing gas (abstract).

Nor does the '247 patent suggest claim 40. The '247 patent does not teach a liquid-to-liquid gas transfer and its advantages over a gas-liquid transfer. Instead, the '247 patent utilizes a conventional gas-liquid transfer to introduce a gas into a liquid (abstract). Therefore, based on the teachings of the '247 patent, one of ordinary skill in the art would not be motivated to change the

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device of the '247' patent from a gas-liquid transfer device to a liquid-to-liquid transfer device and arrive at the present claim 40. Thus, claim 40 is patentable over the '247 reference.

Applicants thank the Examiner for indicating that claim 41 would be allowable if rewritten in independent form. However, since claim 41 depends from claim 1 and claim 1 is believed to be patentable over the cited references, claim 41 is believed patentable in its current form. However, Applicants added a new claim 79 that includes all the limitations of claim 41 and all of the limitations of the base claim 1 and the intervening claims 38 and 40. Thus, new independent claim 79 is also patentable over the cited art.

In the Office Action of 7/23/02, the Examiner required the Applicants to restrict further prosecution on the merits to Group I (claims 1-48 and 63-75) drawn to the apparatus and facility, or Group II (claims 49-62) drawn to a method. Additionally, the Examiner divided the claims of the Group I into species A1(32-34, 73); A2(35-37); A3(38-41); B1(65); and B2(66-69) and required an election of a single species of sub-genus A and a single species of sub-genus B "to which the claims shall be restricted if no generic claim is finally held to be allowable." The Examiner also noted that claims 1-31, 42-48, 63-72, and 74-75 are generic with respect to sub-genus A and claims 1-65 and 70-75 are generic with respect to sub-genus B. Finally, the Examiner stated that if generic claims are allowable, Applicants will be entitled to the consideration of the claims to additional species which are written in dependent form or include all the limitations of an allowed generic claim.

In response to the restriction requirement, Applicants elected Group I (claims 1-48 and 63-75), and species A3 and B2. As discussed above, independent generic claims 1 and 63 are patentable over the cited art. Claims 2-48 and 62-75 depend from the patentable claims 1 and 63. Therefore, Applicants are entitled to and request consideration of all the claims within Group I, including claims directed to species A1, A2, and B1, in addition to species A3 and B2. Accordingly, applicant requests an examination on the merits of claims 1-48 and 63-75, as well as newly added claims 76-78.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

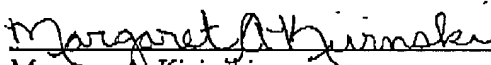
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If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is invited to call the undersigned attorney at the telephone number listed below to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1769.

Respectfully submitted,

Date: April 30, 2003



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